**IT Applications Unit 3, AOS 2, Organisations and Data Management**

**Database Design Tools, p 106**

**Naming Conventions**

1. List the naming conventions that can be applied to a database.

Some naming conventions that can be applied to a database are:

* Prefixing tables with **tbl**, for example tblCustomer or tblProducts.
* Prefixing fields, for example a field in the customer table could be prefixed with **cus**
* Prefixing queries with **qry,** forms with **frm** and reports with **rpt**
* Naming the file relevantly

**Entity-Relationship Diagram, (ERD)**

1. Describe the nature of these diagrams.

These diagrams are used by database designers to establish the interrelationships between different data elements. They usually show the sub-parts of tables and how the entities relate to each other.

1. Draw the symbols used to represent, entities, relationships and attributes.

Represents relationships

Represents entities

1. List the three steps to create an ERD.

To create an ERD you need to:

1. Identify the entities
2. Define the relationships
3. Add attributes to each entity

**Data Structure Table**

1. Draw a diagram of the data structure table which is used to design a new database.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Field | Data type | Field size | Input mask | Caption | Description | Validation rule | Validation text |
| cliClientID | Text | 4 |  | Client ID No. | Clients individual assigned code | Between 1000 and 9999 | Client ID number must be between 1000 and 9999 inclusive |
| cliLastName | Text | 30 |  | Last Name | Clients last name |  |  |
| CliFirstName | Text | 30 |  | First name | Clients first name |  |  |

1. Note: database tables cannot hold formulas.

**Data Structure diagram**

1. What is the purpose of this diagram?

The purpose of this diagram is to indicate the relationships that exist between the specific tables of the planned database so the developer will know how the database ought to be linked.

**Query Design**

1. What is a query?

A query is a request/question that filters the data in a database so that only the records that meet the query criteria remain. A query can also be used as a control structure to hold formulas used on forms and other queries.

1. Distinguish between a primary and a secondary sort

Primary sort is the first sort and the secondary sort is second. An example is sorting by last name first then by first name to find exactly who you looking for.

1. Read the query criteria that can be used, including symbols, plain text, \*? Wildcards, etc.

**Layout diagram**

1. What does a layout diagram involve?

A layout diagram involves sketching what an input form or the output of the solution will look like.

1. List what is contained on a layout diagram.

It shows an interface developer the location of things such as headings, labels and fields. A layout diagram should show the appropriate use of formats and conventions, and also annotations that show formatting details for all elements.

**Test Data**

1. When is a set of test data prepared?

A set of test data is prepared at the design stage; it is then used throughout the development of the database.

1. What is the role of the test data?

The role of this test data is to ensure that the solution functions correctly. This data is chosen to test all aspects of the solution, including the identification and handling of incorrect data. Once the solution has been found to function correctly data relevant to the organisation is added.

**Validating data**

1. List the available electronic validation checks in the software.

Some electronic validations available are:

* Range checks
* Spell checking
* Grammar checking
* Predefined lists
* Data type checks
* Input masks
* Alignment and IIF() statements

1. What is an input mask?

An input mask reduces the chance of invalid data is entered, an input mask can be set for any field and that holds text or date type data and controls how data is entered.

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